STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
BRISTOL BAY AREA PLAN
MINERAL ORDER NO. 393

____ - - Opening Lands to Mineral Entry

XX - - Closing Lands to Mineral Entry

Pursuant to authority granted to the Director, Division of Lands, State of Alaska, by AS 38.05.185 thru AS 38.05.280, and in accordance with applicable regulations, the Director does hereby XX close ____open the following described lands to entry under the locatable mineral leasing and mining laws of the State of Alaska:

SEE ATTACHMENT #1

Subject to valid existing rights.

This mineral order is based on written justification contained in Land Planning Report C-SC-84-008 and the BBAP.

Submitted: Rick Austin for
District Classification Officer

Concur: Margaret J Haye
District Manager

Mineral Order Recommended: 9/12/84
Division Classification Officer

Concur: Tom Hawkins 9-12-84
Director,
Division of Land and Water Management

Approved by: Esther C Wunnicke
Commissioner
Department of Natural Resources

9-13-84
Effective
Date

Completed
GRAPHIC RECORD NOTED 4/18/89
DATE

FINDINGS OF THE COMMISSIONER
BRISTOL BAY AREA PLAN
AS 38.05.185(a)

The Bristol Bay Area Plan (BBAP), developed in accordance with appropriate state statutes, identifies 64 designated anadromous streams to be closed to new mineral entry in order to protect significant fish and wildlife habitats and the public's use thereof. (See Attachment 2, Justification for Stream Closures.)

Commercial harvest of salmon is the major economic industry in the Bristol Bay region. The average ex-vessel value for all salmon catches (all species) in the BBAP study area (1977-1982) have exceeded $150 million annually, with first wholesale value surpassing $250 million in 1982. Recreational activities, which includes sport fishing as a major component, contribute an estimated $25 million annually to the Bristol Bay economy. The value of the subsistence harvest of fish cannot be measured in standard monetary terms. An estimation can be made of the replacement food cost of the subsistence harvest if the harvest had to be replaced with food shipped in from Anchorage. Preliminary estimates for the local food replacement cost of the 1982 subsistence salmon harvest range from $2 to $4 million. Habitat requirements essential for successful salmon spawning, egg, and fry development are clear, cool, well oxygenated stream water and streambed gravel that is free of sediment, highly permeable, and stable. The continued propagation and production of Bristol Bay salmon is essential to a strong regional economy in Bristol Bay and is a substantial contributor to the state economy. Therefore, the propagation and production of Bristol Bay Salmon constitutes a significant surface use of stream water and stream bed gravel in the Bristol Bay area.

The development of mining claims within the active stream channel of designated anadromous streams and adjacent uplands (as identified in the Bristol Bay Area Plan and further depicted in the document titled "An Atlas to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes, 64 Anadromous Streams Closed to New Mineral Entry," attached hereto and made part hereof Attachment 3) creates an incompatible surface use conflict with salmon propagation and production, and jeopardizes the economy of the Bristol Bay region and the management of the commercial, sport, and subsistence fisheries in the Bristol Bay area. Mining within the active stream channel of an anadromous stream can seriously affect salmon spawning and rearing habitat and degrade water quality by the production of excessive sediment loads. Turbidity resulting from increased sediment loads can effectively hinder fish surveys and disrupt management of the entire fishery.

It is my finding that the best interest of the state and its residents are served by the closure of those portions of designated anadromous streams draining identified mineralized areas in the Bristol Bay area (as identified in the Bristol Bay Area Plan and Attachment # 1) to entry under the locatable mineral leasing and mining laws of the State of Alaska. Mineral Order # 393.

Esther C. Wunnicke
Commissioner
Department of Natural Resources

Sept 13, 1984
Date

ATTACHMENT 1

BRISTOL BAY AREA PLAN TOWNSHIP
INDEX OF STREAM MINERAL CLOSURES

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAM IDENTIFICATION NUMBER	CLOSED ACREAGE**
* T.1N., R.32W. S.M.	Chulitna River	324-10-10150-2207-3173	100
T.1N., R.41W. S.M.	Mulchatna River	325-30-10100-2202	2,462
T.1N., R.43W. S.M.	Old Man Creek	325-30-10100-2202-3075	288
T.1N., R.46W. S.M.	Nushagak River	325-30-10100	1,981
T.2N., R.37W. S.M.	Keefer Creek	325-30-10100-2202-3338	69
T.2N., R.38W. S.M.	Keefer Creek	325-30-10100-2202-3338	288
T.2N., R.39W. S.M.	Keefer Creek	325-30-10100-2202-3338	251
T.2N., R.40W. S.M.	Mulchatna River	325-30-10100-2202	1,221
T.2N., R.41W. S.M.	Mulchatna River	325-30-10100-2202	1,012
T.2N., R.46W. S.M.	King Salmon River Nushagak River	325-30-10100-2435 325-30-10100	1,733
T.2N., R.47W. S.M.	Nushagak River King Salmon River	325-30-10100 325-30-10100-2435	4,389
T.2N., R.48W. S.M.	King Salmon River Tributary to King Salmon	325-30-10100-2435 325-30-10100-2435-3100	2,683
T.2N., R.49W. S.M.	King Salmon River Tributary to King Salmon	325-30-10100-2435 325-30-10100-2435-3100	76
T.2N., R.50W. S.M.	King Salmon River	325-30-10100-2435	380
T.3N., R.35W. S.M.	Nikadavna Creek	325-30-10100-2202-3446-4052	153
T.3N., R.37W. S.M.	Tributary to Mulchatna	325-30-10100-2202-3420	248
T.3N., R.39W. S.M.	Mulchatna River Keefer Creek	325-30-10100-2202 325-30-10100-2202-3338	3,197
T.3N., R.40W. S.M.	Mulchatna River	325-30-10100-2202	1,714
T.3N., R.46W. S.M.	Nushagak River	325-30-10100	630
T.3N., R.48W. S.M.	Tributary to King Salmon	325-30-10100-2435-3100	127
T.3N., R.49W. S.M.	King Salmon River Tributary to King Salmon Tributary to King Salmon Tributary to King Salmon Tributary to King Salmon	325-30-10100-2435 325-30-10100-2435-3100 325-30-10100-2435-3116 325-30-10100-2435-3116-4011 325-30-10100-2435-3130	1,589
T.3N., R.50W. S.M.	King Salmon River Tributary to King Salmon Tributary to King Salmon	325-30-10100-2435 325-30-10100-2435-3116-4011 325-30-10100-2435-3130	566
T.3N., R.51W. S.M.	King Salmon River	325-30-10100-2435	338
T.3N., R.52W. S.M.	King Salmon River	325-30-10100-2435	314
T.4N., R.33W. S.M.	Chilchitna River	325-30-10100-2202-3446	94

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
T.4N., R.34W. S.M.	Chilchitna River	325-30-10100-2202-3446	418
T.4N., R.35W. S.M.	Nikadavna Creek Chilchitna River	325-30-10100-2202-3446-4052 325-30-10100-2202-3446	386
T.4N., R.36W. S.M.	Chilchitna River Nikadavna Creek	325-30-10100-2202-3446 325-30-10100-2202-3446-4052	324
T.4N., R.37W. S.M.	Mulchatna River Tributary to Mulchatna	325-30-10100-2202 325-30-10100-2202-3420	1,110
T.4N., R.38W. S.M.	Mulchatna River	325-30-10100-2202	1,372
T.4N., R.39W. S.M.	Mulchatna River	325-30-10100-2202	34
T.4N., R.42W. S.M.	Nushagak River	325-30-10100	51
T.4N., R.43W. S.M.	Nushagak River	325-30-10100	919
T.4N., R.45W. S.M.	Nushagak River	325-30-10100	1,061
T.4N., R.46W. S.M.	Nushagak River	325-30-10100	193
T.4N., R.48W. S.M.	Tributary to King Salmon	325-30-10100-2435-3100	94
T.4N., R.49W. S.M.	Tributary to King Salmon	325-30-10100-2435-3116	193
T.5N., R.30W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	129
T.5N., R.31W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	207
T.5N., R.32W. S.M.	Chilchitna River	325-30-10100-2202-3446	178
T.5N., R.33W. S.M.	Chilchitna River	325-30-10100-2202-3446	105
T.5N., R.35W. S.M.	Chilchitna River Mulchatna River	325-30-10100-2202-3446 325-30-10100-2202	308
T.5N., R.36W. S.M.	Mulchatna River Chilchitna River	325-30-10100-2202 325-30-10100-2202-3446	1,806
T.5N., R.37W. S.M.	Mulchatna River	325-30-10100-2202	19
T.5N., R.42W. S.M.	Nushagak River	325-30-10100	401
T.5N., R.43W. S.M.	Nushagak River	325-30-10100	466
T.5N., R.44W. S.M.	Nushagak River	325-30-10100	673
T.6N., R.30W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	233
T.6N., R.31W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	173
T.6N., R.32W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	668
T.6N., R.33W. S.M.	Chilikadrotna River	325-30-10100-2202-3510	298
T.6N., R.34W. S.M.	Mulchatna River Chilikadrotna River	325-30-10100-2202 325-30-10100-2202-3510	594
T.6N., R.35W. S.M.	Mulchatna River Chilikadrotna River	325-30-10100-2202 325-30-10100-2202-3510	1,273
T.6N., R.39W. S.M.	Nushagak River	325-30-10100	244
T.6N., R.40W. S.M.	Nushagak River	325-30-10100	379

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
T.6N., R.41W. S.M.	Nushagak River	325-30-10100	424
T.6N., R.42W. S.M.	Nushagak River	325-30-10100	229
T.7N., R.33W. S.M.	Mulchatna River	325-30-10100-2202	238
T.7N., R.34W. S.M.	Mulchatna River	325-30-10100-2202	609
T.7N., R.39W. S.M.	Nushagak River	325-30-10100	29
T.8N., R.32W. S.M.	Mulchatna River	325-30-10100-2202	215
T.8N., R.33W. S.M.	Mulchatna River	325-30-10100-2202	313
T.9N., R.30W. S.M.	Mulchatna River	325-30-10100-2202	897
T.9N., R.31W. S.M.	Mulchatna River	325-30-10100-2202	538
T.9N., R.32W. S.M.	Mulchatna River	325-30-10100-2202	263
T.1S., R.41W. S.M.	Mulchatna River	325-30-10100-2202	2,544
T.1S., R.43W. S.M.	Old Man Creek	325-30-10100-2202-3075	342
T.1S., R.44W. S.M.	Old Man Creek	325-30-10100-2202-3075	98
T.1S., R.47W. S.M.	Nushagak River	325-30-10100	2,627
* T.2S., R.29W. S.M.	Chekok Creek	324-10-10150-2267	25
T.2S., R.40W. S.M.	Koktuli River	325-30-10100-2202-3080	600
T.2S., R.41W. S.M.	Koktuli River Mulchatna River	325-30-10100-2202-3080 325-30-10100-2202	527
T.2S., R.42W. S.M.	Mulchatna River Old Man Creek	325-30-10100-2202 325-30-10100-2202-3075	3,269
T.2S., R.43W. S.M.	Old Man Creek	325-30-10100-2202-3075	198
T.2S., R.45W. S.M.	Harris Creek	325-30-10100-2280	182
T.2S., R.46W. S.M.	Harris Creek	325-30-10100-2280	324
T.2S., R.47W. S.M.	Harris Creek Nushagak River	325-30-10100-2280 325-30-10100	3,931
* T.3S., R.26W. S.M.	Pile River Tributary to Iliamna River	324-10-10150-2341 324-10-10150-2402-3025	123
T.3S., R.29W. S.M.	Chekok Creek	324-10-10150-2267	211
* T.3S., R.30W. S.M.	Chekok Creek	324-10-10150-2267	58
* T.3S., R.32W. S.M.	Newhalen River	324-10-10150-2207	107
* T.3S., R.33W. S.M.	Newhalen River	324-10-10150-2207	1,120
T.3S., R.34W. S.M.	Upper Talarik Creek	324-10-10150-2183	153
T.3S., R.35W. S.M.	Upper Talarik Creek Tributary to Koktuli R.	324-10-10150-2183 325-30-10100-2202-3080-4083	116
T.3S., R.36W. S.M.	Tributary to Koktuli R.	325-30-10100-2202-3080-4083	379
T.3S., R.37W. S.M.	Tributary to Koktuli R.	325-30-10100-2202-3080-4083	72

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
T.3S., R.38W. S.M.	Koktuli River	325-30-10100-2202-3080	344
T.3S., R.39W. S.M.	Koktuli River Tributary to Koktuli R.	325-30-10100-2202-3080 325-30-10100-2202-3080-4058	961
T.3S., R.40W. S.M.	Koktuli River	325-30-10100-2202-3080	21
T.3S., R.41W. S.M.	Koktuli River	325-30-10100-2202-3080	168
T.3S., R.42W. S.M.	Mulchatna River Koktuli River Old Man Creek	325-30-10100-2202 325-30-10100-2202-3080 325-30-10100-2202-3075	2,384
T.3S., R.43W. S.M.	Mulchatna River	325-30-10100-2202	342
T.3S., R.45W. S.M.	Cranberry Creek	325-30-10100-2214	280
T.3S., R.46W. S.M.	Cranberry Creek	325-30-10100-2214	10
* T.3S., R.47W. S.M.	Nushagak River Harris Creek	325-30-10100 325-30-10100-2280	1,473
* T.3S., R.48W. S.M.	Nuyakuk River	325-30-10100-2249	1,047
T.3S., R.49W. S.M.	Nuyakuk River	325-30-10100-2249	1,117
T.3S., R.50W. S.M.	Nuyakuk River	325-30-10100-2249	764
* T.4S., R.25W. S.M.	Tributary to Iliamna River Iliamna River	324-10-10150-2402-3025 324-10-10150-2402	421
* T.4S., R.26W. S.M.	Pile River Iliamna River Tributary to Iliamna River	324-10-10150-2341 324-10-10150-2402 324-10-10150-2402-3025	1,448
* T.4S., R.27W. S.M.	Pile River	324-10-10150-2341	340
* T.4S., R.29W. S.M.	Canyon Creek	324-10-10150-2273	238
* T.4S., R.30W. S.M.	Chekok Creek	324-10-10150-2267	278
* T.4S., R.33W. S.M.	Newhalen River	324-10-10150-2207	725
* T.4S., R.34W. S.M.	Pete Andrews Creek Upper Talarik Creek	324-10-10150-2195 324-10-10150-2183	236
T.4S., R.35W. S.M.	Koktuli River Upper Talarik Creek	325-30-10100-2202-3080 324-10-10150-2183	386
T.4S., R.36W. S.M.	Koktuli River	325-30-10100-2202-3080	413
T.4S., R.37W. S.M.	Koktuli River Tributary to Koktuli R.	325-30-10100-2202-3080 325-30-10100-2202-3080-4083	595
T.4S., R.38W. S.M.	Koktuli River Tributary to Koktuli R.	325-30-10100-2202-3080 325-30-10100-2202-3080-4083	496
T.4S., R.39W. S.M.	Tributary to Koktuli R.	325-30-10100-2202-3080-4058	10
T.4S., R.42W. S.M.	Mulchatna River	325-30-10100-2202	91
T.4S., R.43W. S.M.	Mulchatna River	325-30-10100-2202	1,052
T.4S., R.44W. S.M.	Mulchatna River	325-30-10100-2202	2,432
T.4S., R.46W. S.M.	Cranberry Creek	325-30-10100-2214	374

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
* T.4S., R.47W. S.M.	Nushagak River	325-30-10100	740
* T.4S., R.48W. S.M.	Nushagak River Nuyakuk River	325-30-10100 325-30-10100-2249	3,278
* T.5S., R.27W. S.M.	Iliamna River Chinkelyes Creek	324-10-10150-2402 324-10-10150-2402-3014	599
* T.5S., R.28W. S.M.	Iliamna River	324-10-10150-2402	301
* T.5S., R.33W. S.M.	Newhalen River	324-10-10150-2207	678
* T.5S., R.34W. S.M.	Newhalen River Pete Andrews Creek	324-10-10150-2207 324-10-10150-2195	512
* T.5S., R.35W. S.M.	Upper Talarik Creek	324-10-10150-2183	349
T.5S., R.36W. S.M.	Lower Talarik Creek	324-10-10150-2167	87
T.5S., R.38W. S.M.	Tributary to Iliamna Lake	324-10-10150-2159	25
T.5S., R.44W. S.M.	Mulchatna River	325-30-10100-2202	1,467
* T.5S., R.45W. S.M.	Mulchatna River	325-30-10100-2202	4,386
* T.5S., R.46W. S.M.	Mulchatna River Cranberry Creek Nushagak River	325-30-10100-2202 325-30-10100-2214 325-30-10100	1,079
* T.5S., R.47W. S.M.	Nushagak River	325-30-10100	3,638
* T.5S., R.48W. S.M.	Nushagak River	325-30-10100	2,438
* T.6S., R.31W. S.M.	Tommy Creek	324-10-10150-2320	32
* T.6S., R.34W. S.M.	Pete Andrews Creek	324-10-10150-2195	116
* T.6S., R.35W. S.M.	Upper Talarik River Tributary to Iliamna Lake	324-10-10150-2183 324-10-10150-2175	280
T.6S., R.36W. S.M.	Tributary to Iliamna Lake Lower Talarik Creek	324-10-10150-2175 324-10-10150-2167	335
T.6S., R.37W. S.M.	Lower Talarik Creek Tributary to Lower Talarik Tributary to Iliamna Lake Tributary to Iliamna Lake	324-10-10150-2167 324-10-10150-2167-3003 324-10-10150-2163 324-10-10150-2159	461
T.6S., R.38W. S.M.	Tributary to Iliamna Lake Tributary to Iliamna Lake Tributary to Iliamna Lake	324-10-10150-2159 324-10-10150-2155 324-10-10150-2149	306
* T.6S., R.45W. S.M.	Mulchatna River	325-30-10100-2202	1,219
* T.6S., R.46W. S.M.	Mulchatna River Nushagak River	325-30-10100-2202 325-30-10100	6,693
T.6S., R.49W. S.M.	Klutuk Creek	325-30-10100-2141	50
T.6S., R.50W. S.M.	Klutuk Creek	325-30-10100-2141	120
T.6S., R.52W. S.M.	Tributary to Kukwuk	325-30-10100-2129-3046-4110	127
T.6S., R.53W. S.M.	Kukwuk River	325-30-10100-2129-3046	438
T.7S., R.29W. S.M.	Copper River	324-10-10150-2280	65

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
* T.7S., R.30W. S.M.	Copper River Tommy Creek	324-10-10150-2280 324-10-10150-2320	276
* T.7S., R.31W. S.M.	Tommy Creek Copper River	324-10-10150-2320 324-10-10150-2280	228
T.7S., R.38W. S.M.	Tributary to Iliamna Lake Tributary to Iliamna Lake	324-10-10150-2149 324-10-10150-2145	123
* T.7S., R.46W. S.M.	Nushagak River	325-30-10100	2,229
* T.7S., R.48W. S.M.	Klutuk Creek	325-30-10100-2141	174
T.7S., R.49W. S.M.	Klutuk Creek	325-30-10100-2141	404
T.7S., R.50W. S.M.	Klutuk Creek	325-30-10100-2141	25
T.7S., R.51W. S.M.	Kenakuchuk Creek	325-30-10100-2129-3040	127
T.7S., R.52W. S.M.	Kenakuchuk Creek Kukwuk River Tributary to Kukwuk	325-30-10100-2129-3040 325-30-10100-2129-3046 325-30-10100-2129-3046-4110	535
T.7S., R.53W. S.M.	Kukwuk River Kokwok River	325-30-10100-2129-3046 325-30-10100-2129	389
* T.8S., R.30W. S.M.	Kokhanok River Copper River	324-10-10150-2240 324-10-10150-2280	178
* T.8S., R.31W. S.M.	Kokhanok River Copper River	324-10-10150-2240 324-10-10150-2280	119
* T.8S., R.33W. S.M.	Tributary to Iliamna Lake	324-10-10150-2196	14
* T.8S., R.46W. S.M.	Nushagak River	325-30-10100	1,247
* T.8S., R.47W. S.M.	Nushagak River	325-30-10100	3,585
T.8S., R.51W. S.M.	Kokwok River	325-30-10100-2129	160
T.8S., R.52W. S.M.	Kokwok River Kenakuchuk Creek Kukwuk River	325-30-10100-2129 325-30-10100-2129-3040 325-30-10100-2129-3046	833
* T.8S., R.53W. S.M.	Kokwok River	325-30-10100-2129	119
T.8S., R.54W. S.M.	Pike Creek	325-30-10100-2031-3118-4062	36
* T.8S., R.55W. S.M.	Pike Creek	325-30-10100-2031-3118-4062	91
* T.9S., R.33W. S.M.	Tributary to Iliamna Lake	324-10-10150-2196	14
T.9S., R.34W. S.M.	Dennis Creek	324-10-10150-2182	171
T.9S., R.35W. S.M.	Tributary to Iliamna Lake Tributary to Belinda Creek	324-10-10150-2162 324-10-10150-2156-3005-4007	101
T.9S., R.36W. S.M.	Tributary to Iliamna Lake Belinda Creek	324-10-10150-2162 324-10-10150-2156	204
* T.9S., R.48W. S.M.	Nushagak River	325-30-10100	1,979
* T.9S., R.49W. S.M.	Nushagak River	325-30-10100	461
* T.9S., R.50W. S.M.	Kokwok River	325-30-10100-2129	530
* T.9S., R.51W. S.M.	Kokwok River	325-30-10100-2129	468

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
T.9S., R.52W. S.M.	Kokwok River	325-30-10100-2129	120
A T.9S., R.53W. S.M.	Iowithla River	325-30-10100-2101	109
A* T.9S., R.54W. S.M.	Iowithla River Muklung River	325-30-10100-2101 325-30-10100-2031-3028	221
T.9S., R.55W. S.M.	Muklung River	325-30-10100-2031-3028	178
* T.9S., R.57W. S.M.	Agulowak River	325-30-10100-2031-3118	138
A T.10S., R.31W. S.M.	Dream Creek	324-10-10150-2196-3033	113
A* T.10S., R.32W. S.M.	Tributary to Iliamna Lake	324-10-10150-2196	94
A T.10S., R.35W. S.M.	Tributary to Belinda Creek Tributary to Belinda Creek Belinda Creek	324-10-10150-2156-3005-4007 324-10-10150-2156-3005 324-10-10150-2156	371
A T.10S., R.36W. S.M.	Belinda Creek Tributary to Belinda Creek	324-10-10150-2156 324-10-10150-2156-3005	247
* T.10S., R.37W. S.M.	Pecks Creek	324-10-10150-2136	193
* T.10S., R.38W. S.M.	Pecks Creek	324-10-10150-2136	262
* T.10S., R.39W. S.M.	Pecks Creek Kvichak River	324-10-10150-2136 324-10-10150	490
* T.10S., R.40W. S.M.	Kvichak River Pecks Creek Kvichak River	324-10-10150 324-10-10150-2136 324-10-10150	1,250
* T.10S., R.41W. S.M.	Kvichak River	324-10-10150	727
* T.10S., R.49W. S.M.	Nushagak River Kokwok River	325-30-10100 325-30-10100-2129	4,236
* T.10S., R.50W. S.M.	Nushagak River Kokwok River	325-30-10100 325-30-10100-2129	1,636
T.10S., R.53W. S.M.	Iowithla River	325-30-10100-2101	295
* T.10S., R.54W. S.M.	Muklung River	325-30-10100-2031-3028	171
* T.10S., R.55W. S.M.	Muklung River Wood River	325-30-10100-2031-3028 325-30-10100-2031	163
* T.11S., R.41W. S.M.	Kvichak River	324-10-10150	394
A T.11S., R.42W. S.M.	Kvichak River	324-10-10150	816
* T.11S., R.43W. S.M.	Kvichak River	324-10-10150	494
* T.11S., R.44W. S.M.	Kvichak River	324-10-10150	987
* T.11S., R.49W. S.M.	Nushagak River	325-30-10100	28
* T.11S., R.50W. S.M.	Nushagak River	325-30-10100	2,504
* T.11S., R.55W. S.M.	Wood River	325-30-10100-2031	1,046
* T.12S., R.44W. S.M.	Kvichak River	324-10-10150	1,421
* T.12S., R.45W. S.M.	Kvichak River	324-10-10150	2,220

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
* T.12S., R.50W. S.M.	Nushagak River	325-30-10100	10,441
T.12S., R.55W. S.M.	Wood River	325-30-10100-2031	2,876
* T.13S., R.45W. S.M.	Kvichak River	324-10-10150	1,329
* T.13S., R.46W. S.M.	Kvichak River	324-10-10150	2,672
* T.13S., R.50W. S.M.	Nushagak River	325-30-10100	980
* T.13S., R.51W. S.M.	Nushagak River	325-30-10100	1,250
* T.13S., R.53W. S.M.	Nushagak River	325-30-10100	2,935
* T.13S., R.54W. S.M.	Nushagak River	325-30-10100	5,850
* T.13S., R.55W. S.M.	Nushagak River Wood River	325-30-10100 325-30-10100-2031	9,700
* T.13S., R.56W. S.M.	Nushagak River	325-30-10100	112
* T.14S., R.46W. S.M.	Kvichak River	324-10-10150	4,603
* T.14S., R.50W. S.M.	Nushagak River	325-30-10100	809
* T.14S., R.51W. S.M.	Nushagak River	325-30-10100	1,600
* T.14S., R.52W. S.M.	Nushagak River	325-30-10100	1,337
* T.14S., R.53W. S.M.	Nushagak River	325-30-10100	5,151
* T.15S., R.51W. S.M.	Nushagak River	325-30-10100	1,425
* T.15S., R.52W. S.M.	Nushagak River	325-30-10100	2,364
* T.15S., R.53W. S.M.	Nushagak River	325-30-10100	1,002
T.45S., R.69W. S.M.	Sandy River	315-12-10100	193
T.45S., R.70W. S.M.	Sandy River	315-12-10100	562
T.45S., R.71W. S.M.	Sandy River	315-12-10100	468
T.46S., R.68W. S.M.	Sandy River	315-12-10100	588
T.46S., R.69W. S.M.	Sandy River	315-12-10100	254
T.46S., R.70W. S.M.	Sandy River	315-12-10100	135
T.46S., R.71W. S.M.	Sandy River Tributary to Bear River Bear River	315-12-10100 315-11-10200-2009 315-11-10200	419
T.46S., R.72W. S.M.	Bear River	315-11-10200	54
T.47S., R.70W. S.M.	Tributary to Bear River	315-11-10200-2009	87
T.47S., R.71W. S.M.	Tributary to Bear River Bear River	315-11-10200-2009 315-11-10200	381
T.47S., R.72W. S.M.	Bear River	315-11-10200	36
T.48S., R.70W. S.M.	Bear River	315-11-10200	3
T.48S., R.71W. S.M.	Bear River	315-11-10200	102
T.49S., R.70W. S.M.	Bear River	315-11-10200	156

TOWNSHIP/RANGE	RIVER(S)	ANADROMOUS STREAMS IDENTIFICATION NUMBER	CLOSED ACREAGE**
T.49S., R.71W. S.M.	Bear River	315-11-10200	3
* T.49S., R.78W. S.M.	Sapsuk River Caribou River	313-30-10140-2013 313-30-10140	467
* T.49S., R.79W. S.M.	Caribou River	313-30-10140	43
T.50S., R.76W. S.M.	Lefthead River	313-30-10140-2013-3007	94
T.50S., R.77W. S.M.	Sapsuk River Lefthead River	313-30-10140-2013 313-30-10140-2013-3007	345
* T.50S., R.78W. S.M.	Sapsuk River Peterson Creek Caribou River	313-30-10140-2013 313-30-10140-2013-3006 313-30-10140	796
* T.50S., R.79W. S.M.	Caribou River	313-30-10140	171
T.51S., R.76W. S.M.	Lefthead River	313-30-10140-2013-3007	247
T.51S., R.77W. S.M.	Sapsuk River	313-30-10140-2013	338
T.51S., R.78W. S.M.	Peterson Creek Caribou River	313-30-10140-2013-3006 313-30-10140	309
T.51S., R.79W. S.M.	Caribou River	313-30-10140	276
T.51S., R.80W. S.M.	Caribou River	313-30-10140	3
T.52S., R.76W. S.M.	Sapsuk River	313-30-10140-2013	14
T.52S., R.80W. S.M.	Caribou River	315-30-10140	368
T.52S., R.81W. S.M.	Caribou River	315-30-10140	76
	TOTAL ACREAGE ENCOMPASSED BY STREAM MINERAL CLOSURE		213,697*

* Acreage totals for townships include some acreage of Native selected or conveyed lands.

** Acreage figures are estimates only, though care was taken to make them as accurate as possible. See Attachment B for the methology of this acreage estimation.

ATTACHMENT 1.1

BRISTOL BAY AREA PLAN
STREAM CLOSURE ACREAGE ESTIMATION

The Bristol Bay Area Plan (BBAP) calls for selected stream closures to new mineral entry. The total acreage encompassed by these stream closures is estimated at 213,697 acres. This acreage estimation was arrived at through the following methods.

The active stream channels (as defined by the BBAP) of designated anadromous streams identified for closure by the BBAP were mapped at 1:63,360.

Acreage estimations for large and braided streams (i.e. Nushagak, Mulchatna, Nuyakuk and Kvichak rivers, etc.) were calculated on a CALCOMP 9000 digitizer. Area was calculated in square miles and converted to acres.

Acreage estimations for smaller streams were determined by calculating stream length on a CALCOMP 9000 digitizer and multiplying length by an average stream width of 100' plus a 100' buffer on either side of the stream for a total 300' stream corridor. Area was calculated in square miles and converted to acres.

Acreage was compiled by individual township/range and also totaled by USGS quad map.

Native selected and conveyed lands within the active stream channel and upland buffer areas were separated out from the total acreage figure compiled for each township by manual calculation of the affected acreage at a 1:63,360 scale. An asterisk (*) is placed next to those townships that contain native selected and conveyed lands.

ATTACHMENT 2

JUSTIFICATION FOR STREAM CLOSURES

BACKGROUND:

FISH AND WILDLIFE USE

The Bristol Bay salmon fishery is, and historically has been, the most valuable economic resource in the Bristol Bay region; providing a major portion of all the salmon harvested in the State of Alaska and the world annually. Bristol Bay area residents rely heavily on this salmon resource to support their livelihood and economy through commercial, sport, and subsistence fishing activities. The existence and future success of the Bristol Bay salmon fishery depends on the maintenance of anadromous stream habitat for salmon spawning and rearing. Essential conditions for successful salmonid spawning, egg, and fry development are clear, cool, well-oxygenated water, and gravel that is free of sediment, highly permeable, and stable. Salmon are a renewable resource and the continued propagation and production of Bristol Bay salmon for commercial, sport, and subsistence harvest constitutes a significant surface use of stream waters and stream bed gravel in the Bristol Bay area. Through maintenance of water quality, stream habitat, and fishery management practices, the Bristol Bay salmon fishery should continue to prosper in the future and contribute to the regional and state economy. Other fish, primarily rainbow trout, arctic char, and grayling, are of major importance to the region's sport fishery.

COMMERCIAL SALMON HARVEST

The Bristol Bay commercial salmon fishery dates back to 1884, and remains today as the basic factor in the culture and economy of the area. The Bristol Bay Area Plan study area includes all of the Bristol Bay, Alaska Peninsula, and Chignik fishery management units (ADF&G).

Five species of Pacific salmon are indigenous to the Bristol Bay study area with sockeye salmon being most important commercially. The average ex-vessel value for salmon catches (all species) in the entire Bristol Bay study area (1977-1982) have exceeded $150 million annually with the first wholesale value surpassing $250 million in 1982. In 1983, a record commercial catch of more than 39 million sockeye salmon from the Bristol Bay fisheries management unit and the north side of the Alaska Peninsula was recorded with an ex-vessel value in excess of $145 million for that species alone.

An estimated 3,000 limited entry fishing permits were issued for the Bristol Bay and Alaska Peninsula purse seine, drift gill net, and set gill net salmon fisheries in 1982. Approximately 67% of these licensed gear holders are Alaska residents, and 70% of these are Bristol Bay residents. More than 7,700 commercial fishermen are employed in the fishery during the season. In addition, twelve shore-based canneries in Bristol Bay employ more than 2,000 cannery workers each season with floating processors employing an additional 700 workers. In addition, air freighting of fresh salmon, for

processing elsewhere, is also a substantial enterprise, particularly during high production years. On the average, more than 10,000 people are seasonally employed by the Bristol Bay salmon fishery.

RECREATION/SPORT FISHING

The Bristol Bay study area ranks among the finest sport fishing and hunting areas in the world. Recreation, including sport fishing, has been recognized as a component of the Bristol Bay economy for over 50 years. In recognition of the region's exceptional rainbow trout fishery, the Alaska Board of Fisheries has designated the Kvichak River (from the mouth of the Alagnak River) and the Iliamna Lake drainage as a Wild Rainbow Trout Area. Within this drainage, Lower Talarik Creek, Upper Talarik Creek, Pete Andrew Creek, Newhalen River, Copper River, Gibraltar River, Dream Creek, and Belinda Creek are world-renowned rainbow trout streams. At present, the recreational industry in the Bristol Bay area is comprised of three components: lodges, guides, and air taxi operators. Most air taxi operators draw their business from the lodges and guides. Approximately 50 to 60 lodges operated in Bristol Bay during 1983. Most of these lodges are geared for sport fishing activities. Approximately two-thirds of the lodge clients were foreign, with the majority of the remaining clients being non-Alaskans. The estimated cost for lodging and fishing at a typical Bristol Bay fishing lodge ranges from $1,500 to $3,500 per person, per week (Nebesky 1984). The 1982 State Guide Register recorded 189 sport fishing and hunting guides in the Bristol Bay area. About 50 registered fishing guides work for the lodges and another 25 operate fly-out float fishing trips on Bristol Bay rivers. Guided fishing trips in Bristol Bay are estimated to average $1,400 per person, per trip (Nebesky 1984). Nonguided independent fishing trips are becoming increasingly popular in Bristol Bay. An estimated 750 to 1,000 persons (mostly Alaskans) take nonguided float-fishing trips in Bristol Bay each year. The majority of the float trips are taken on the Mulchatna, Nushagak, Nuyakuk, Koktuli, Chilikadrotna, Copper, Alagnak (Branch), and Gibraltar rivers, and the Wood River-Tikchik River System. The local economic affect of nonguided fishing tours accrues primarily to air taxi operators (Nebesky 1984). Overall, the Bristol Bay recreation industry, of which sport fishing is a major component, produces in excess of $25 million annually. Of this amount, an estimated $6.7 million is earned by Bristol Bay residents, $16.3 million is earned by Alaskans outside of Bristol Bay, and $2 million is tied to nonresident wages (Nebesky 1984).

SUBSISTENCE SALMON HARVEST

The subsistence harvest of fish and wildlife is essential to the way of life in Bristol Bay communities, regardless of the birthplace, ethnic origin, or economic status of the area residents. Salmon are the most important fish and wildlife resource harvested for subsistence by the region's residents. The subsistence harvest of salmon (all species) in the Bristol Bay study area averages about 176,000 salmon per year (1973-1982). In 1982, an estimated 1,000 subsistence permit holders harvested more than 169,000 salmon for personal consumption in the Bristol Bay study area. Taking into consideration the average weights of the different salmon species and the

percentage of usable food weight per salmon, the 1982 subsistence harvest figures translate into approximately 821 pounds of dressed out salmon per family or subsistence permit holder in the Bristol Bay study area.

The behavioral, social, and cultural values associated with the subsistence harvest cannot be measured in standard monetary terms. However, an estimation can be made of the local food replacement cost of the subsistence salmon harvest if the harvest had to be replaced with similar food or a protein equivalent purchased and shipped in from Anchorage or Dillingham. Methodology used in determining the local food replacement cost of the subsistence harvest is still being refined. Preliminary estimates for the local food replacement cost of the 1982 subsistence salmon harvest range from $2 to $4 million.

INSTREAM MINING

At present, instream placer mining, when compared with fishery resources, is a minor component of the Bristol Bay economy. Annual operating permits were granted for only eight placer operations within the entire Bristol Bay study area in 1983. Only one of these eight placer operations (Bonanza Creek) is located within the general area encompassed by the proposed stream closures. The Bonanza Creek drainage is not closed to new mineral entry. The estimated 1982 gold production of the eight placer operations within the Bristol Bay study area is 9,500 ounces, valued at approximately $3.8 million (T. Bundtzen, DGGS, 1983, Pers. Comm.). Nebesky et al. (1983) estimates that placer mining operations in the Bristol Bay study area seasonally employed about 100 persons in 1982, a peak year for mining and gold prices. Most all of the mining activity occurred in the northwestern portion of the BBAP study area.

Historically, many areas in the Bristol Bay region have been subject to placer mining exploration and mineral discovery. The majority of this placer activity has occurred on the rivers and streams around the eastern half of Iliamna Lake, the upper Nushagak and Mulchatna river drainages, the south side of the Alaska Peninsula, and west of the Ahklun Mountains. Many deposits have been recorded. (Cobb, 1972 and Cobb et.al., 1972).

The likelihood of renewed interest in placer deposits in the Nushagak and Mulchatna river drainages and the streams around the eastern half of Iliamna Lake is good. As more of Alaska's mineral resources are explored and the readily road accessible mineralized areas are developed, these areas in Bristol Bay are likely to be re-explored. Re-newed interest would probably occur here due to knowledge of the historic deposits, favorable geology and mineral terranes. Recently, Anaconda Minerals Company announced a new precious metal hardrock mineral discovery at Johnson River, east of Iliamna Lake in the Cook Inlet drainage. Native corporations in the region, particularly Bristol Bay Native Corporation, have been assessing the mineral resources of their lands in these areas. This and other mineral activity in the area is likely to draw additional activity due to these favorable results.

EFFECTS OF INSTREAM MINING

The development of mining claims within the active stream channel of an anadromous stream creates a serious use conflict and could jeopardize the commercial, sport, and subsistence harvest of salmon and the overall economic and sociocultural structure of the Bristol Bay region. In general, instream placer mining can seriously degrade anadromous stream habitat by producing excessive sediment, increasing turbidity, changing pH, adding toxic heavy metals to stream water, and altering stream channels and stream flows. The effects of placer mining immediately adjacent to streams are similar to other land disturbance activities (i.e., logging, agriculture, vegetation removal, road construction) that can introduce unnaturally high levels of sediment into stream environments. Existing literature contains many studies, reports, and documents on the effects of increased sediment loads on salmonids, food chain components, and on aquatic ecosystems. Properly designed and maintained settling ponds and recycling systems when utilized, may minimize some impacts of sedimentation on aquatic life. The major conclusions reached by investigators studying the effects of placer mining and sedimentation on aquatic life and stream systems are summarized by Madison (1981) as follows:

1. Effects on Fish Life

- Temporary or permanent destruction or modification of spawning beds that can result in failure to spawn or complete or partial mortality of eggs, alevins, or fry. The primary causes are: Reduction of dissolved oxygen, increase in the percentage of silt and sand in the spawning gravel, reduction in intergravel flow rates, scouring of the spawning gravels subsequent to spawning, removal of stream gravels, or complete covering of the spawning beds with sediment;

- Loss of available food supply due to reductions in production at the lower trophic levels (plant life and benthic invertebrates);

- Interference with the sight-dependent feeding habits of salmonids;

- Obliteration of hiding or living areas in gravel by clogging of the interstices with fine sediment, or by reduction of pool areas;

- Short-term exposure to very large concentrations of suspended sediment that can cause fish mortality through damage to the gill structure; and

- Avoidance of normal spawning areas (even at relatively low turbidity) and displacement to cleaner tributaries or other sections of a stream.

2. Effects on Aquatic Plant Life

- Reduction in photosynthetic activity and consequent reduction in growth of algae and macrophytes which form the basis of the food chain for salmon and other freshwater fish;

- Smothering of plant life inhabiting the stream bottom; and

- Increase in the mobility of the substrate.

3. Effects on Benthic Invertebrates

- Reduction in the abundance and diversity of benthos as a result of reduction in available food supply (plant life), increased drift and susceptibility to predation, clogging of the feeding apparatus by fine sediments, and loss of available or suitable substrate habitat; and

- Changes in community composition from clean-water species to species more adaptable to higher sediment levels but possibly less suitable as fish-food organisms.

4. Physical Effects on the Hydrologic System

- Increased turbidity and resultant reduction in light penetration;

- Alteration of channels, including changes in slope, stream velocity, discharge, depth and width, scouring characteristics, stream length, pool-riffle ratio, ground-water/surface-water relationships, ground-water recharge characteristics, and water temperature; and

- Changes in the stream bottom material, including changes in the particle-size composition which may change the rate of intergravel water flow, deposition of fine material and gravel on riffle areas, and changes in bedload movement.

Recent studies completed by researchers at the University of Alaska, Fairbanks (LaPerriere et al., 1983 and Van Nieuwenhuyse, 1983) have substantiated many of these same effects on freshwater habitats in Alaska. In brief, Alaskan researchers have found that mining-induced sedimentation and turbidity results in reduced light penetration, reduced production of plant material, and ultimately a decrease in the production and abundance of fish. In Birch Creek, on anadromous stream heavely impacted by mining, all fish, insect life, and even most algae had been eliminated as a result of mining. Mining-induced turbidity also adversely effects the human use of clear-water habitat for sport fishing, river floating, canoeing, and other recreational activities.

JUSTIFICATION FOR MINERAL CLOSING ORDER:

Title 38 of the Alaska Statutes addresses the management of public lands of the State of Alaska. Section 38.05.185 states:

> "State land may not be closed to mining or mineral location unless the commissioner makes a finding that mining would be incompatible with significant surface uses on the state land. State land may not be restricted to mining under lease unless the commissioner determines that the potential use conflicts on state land require

that mining be allowed only under written lease issued under AS 38.05.205 or the commissioner has determined that the land was mineral in character at the time of state selection."

Section 38.05.185 provides further:

"The determination required under this subsection shall be made in compliance with land classification orders and land use plans developed under AS 38.05.300."

A land use plan such as the Bristol Bay Area Plan is an appropriate forum for classifying state lands and designating specific areas for mineral closures or leasehold locations when these areas meet the criteria set forth in Section 38.05.185. (See also 11 AAC 55, Land Planning and Classification Regulations)

The Bristol Bay Area Plan recognizes continued salmon propagation and production as a significant surface use of state lands in Bristol Bay. The plan also recognizes instream placer mining as conflicting with the continued propagation and production of Bristol Bay salmon and therefore requires closure of selected anadromous streams to new mineral entry. The plan specifically states the following:

The designated anadromous portion of the following streams (designated pursuant to AS 16.05.870) and any state uplands 100 feet from the ordinary high watermark (on both sides of the stream) including islands which are state selected, patented or tentatively approved and excluding islands of other ownership.will be closed to new mineral entry in accordance with AS 38.05.185:

Nushagak River Drainage
- Nushagak River
- Wood River
- Muklung River (Upper 15 Miles)
- Iowithla River (Upper 15 Miles)
- Kokwok River
- Kenakuchuk Creek
- Kukwuk River
- 325-30-10100-2129-3046-4110 tributary to Kukwuk River
- Klutuk Creek
- Cranberry Creek
- Harris Creek
- Nuyakuk River
- King Salmon River
- 325-30-10100-2435-3100 tributary to King Salmon River
- 325-30-10100-2435-3116 tributary to King Salmon River
- 325-30-10100-2435-3116-4011 tributary to King Salmon River
- 325-30-10100-2435-3130 tributary to King Salmon River
- Mulchatna River
- Old Man Creek
- Koktuli River

325-30-10100-2202-3080-4058 tributary to Koktuli River
325-30-10100-2202-3080-4083 tributary to Koktuli River
Keefer Creek
325-30-10100-2202-3420 tributary to Mulchatna River
Chilchitna River
Nikadavna Creek
Chilikadrotna River

Kvichak/Naknek Drainage
Kvichak River
Pecks Creek
324-10-10150-2145 tributary to Iliamna Lake
324-10-10150-2149 tributary to Iliamna Lake
324-10-10150-2155 tributary to Iliamna Lake
324-10-10150-2159 tributary to Iliamna Lake
324-10-10150-2163 tributary to Iliamna Lake
Lower Talarik Creek
324-10-10150-2167-3003 tributary to Lower Talarik Lake
324-10-10150-2175 tributary to Iliamna Lake
Upper Talarik Creek
Pete Andrews Creek
Newhalen River
Chulitna River
Chekok Creek
Canyon Creek
Pile River
Iliamna River
324-10-10150-2402-3025 tributary to Iliamna River
Chinkelyes Creek
Tommy Creek
Copper River
Kokhanok River
324-10-10150-2196 tributary to Iliamna Lake
Dream Creek
Dennis Creek
324-10-10150-2162 tributary to Iliamna Lake
Belinda Creek
324-10-10150-2156-3005 tributary to Belinda Creek
324-10-10150-2156-3005-4007 tributary to Belinda Creek

North Alaska Peninsula Drainages
Sandy River
Bear River
315-11-10200-2009 tributary to Bear River
Caribou River
Sapsuk River
Lefthead River
Peterson Creek

These streams are further depicted in Attachment 3, "An Atlas to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes, 64 Anadromous Streams Closed to New Mineral Entry."

Mining has been previously found to be incompatible with several different types of land uses determined to be significant surface uses of state land. State park and recreation areas, residential subdivisions, river corridors, agricultural areas, and disposal of state land for remote settlement are some examples where mining has been determined to be incompatible with a significant surface use of state land. The propagation and production of salmon is also a significant use of state lands in Bristol Bay. This surface use activity is the mainstay of the Bristol Bay economy and is also a substantial contributor to the state economy. Instream placer mining would create serious use conflicts in anadromous streams and jeopardize the overall productivity of anadromous streams in Bristol Bay, and ultimately, the economy of the Bristol Bay region and the livelihood of area residents.

The conflict between fisheries and mining was recognized by both the state legislature and the U.S. Congress when they established parks and refuges in the region. Mineral entry is incompatible with the fish, wildlife, subsistence, and recreation use of Wood-Tikchik State Park (see AS.41.21.161). All federal public lands in Togiak, Becharof, and Alaska Peninsula National Wildlife Refuges, Lake Clark National Park and Preserve, Katmai National Park and Preserve and Aniakchak National Monument and Preserve are closed to new mineral entry under the Alaska National Interest Lands Conservation Act (or earlier federal legislation) as it was viewed as incompatible with protection of fish and wildlife habitats and populations. Many of the streams to be closed by this order originate within these parks and refuges. Providing sufficient protection to these fishery resources on state lands outside the parks and refuges is critical to protection of these resources within them.

Only the anadromous streams and any islands contained therein, which would be in highest conflict with instream placer mining activities, are to be closed to new mineral entry. High conflict was determined by a streams' juxtaposition to known and verified mineral terranes within the Bristol Bay study area. Existing mining claims are not affected by the stream closures. The closure of the above mentioned anadromous streams encompass an estimated 213,697 acres of state lands. Native conveyed lands within the active stream channel of an anadromous stream designated by this order are not subject to the mineral closure, as these lands are privately owned.

The 1982 and 1983 commercial sockeye salmon harvest and escapement data for the Bristol Bay and North Alaska Peninsula Fishery Management District show that approximately 75% of the commercial sockeye salmon harvest and 72% of the sockeye salmon escapement originates or spawns in the Nushagak/Mulchatna, Kvichak/Iliamna, Sandy, Bear, or Caribou River drainages where mineral closures have been recommended by the Bristol Bay Area Plan. By closing that portion of the Bristol Bay study area to new mineral entry where the most conflict between fishery production and instream mining would occur, through other plan provisions requiring leasehold location mining,

and through enforcement of existing statutes and regulations, protection can be provided to a large portion of the Bristol Bay sockeye salmon run.

Existing state and federal water quality regulations and standards were considered inadequate to guarantee the continued propagation and production of the salmon and other fish resources in the stream waters in the Bristol Bay area. The past and present lack of compliance with and enforcement of these water quality standards in this area and other areas in the state were some of the factors considered during the development of the Bristol Bay Area Plan. The existing standard for turbidity, a measure of suspended sediment, allows for levels of sediment which some experts indicate is detrimental to salmon and their eggs and fry. Also, these levels create conditions which make adequate and effective fishery management extremely difficult due to the inability to visually determine escapement. Alaska Statute 16.05.870 gives the Commissioner of Fish and Game authority to regulate activities within designated anadromous streams. Within the 64 streams designated for closure in this order, sufficient protection of fish and game resources (as required in AS 16.05.870 (d)) would likely preclude mining in these areas after a mining claim has already been filed. Actual stream closings more effectively and efficiently achieves the level of fisheries protection required on these 64 streams. The result of these analyses was to close to new mineral entry those streams where highest conflict between the salmon fishery and mining would occur.

In closing, the best interest of the State of Alaska and its residents are served by the closure of the anadromous streams, as identified in the Bristol Bay Area Plan and further depicted in Attachment 3, titled "An Atlas to the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes, 64 Anadromous Streams Closed to New Mineral Entry," to new mineral entry under the locatable mineral leasing and mining laws of the State of Alaska.

JUSTIFICATION FOR STREAM CLOSURES
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MF-384, Metallic Mineral Resources Map of the Taylor Mountains Quadrangle, Alaska.

MF-441, Metallic Mineral Resources Map of the Cold Bay Quadrangle, Alaska.

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